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Fig. 1

SMEZ	-----	-----	LEVDN NSLER NIYSTIVYEV SDTVIDEKT	30
SMEZ-2	-----	-----	LEVDN NSLER NIYSTIVYEV SDTVIDEKT	30
SPE-J	-----	-----	-----	
SPE-C	-----	DSKK DISNVKSD LL YAYTITPYDY KDCRVNESTT	34	
SPE-G	-----	DE NLKDLKRS LR FAYNITPCDY ENVEIA5VWT	32	
SPE-H	-----	-NSYN TTNRH KLESL YKHDSNLIEA DSIKNSPDIV	34	
SEA	SEKSEEINE KDLRKKSELQ GAALG NLKQI YYNEAKTE NKESHDQFLQ		49	

α2

β1

SMEZ	HNLVTKKLDV	RDARDFFINS	EMDEYAANDF	KDGDKIAMFS	VPPFDWNYLSE	80
SMEZ-2	HNLVTKKLDV	RDARDFFINS	EMDEYAANDF	KTGDKIAVFS	VPPFDWNYLSK	80
SPE-J	-----	-----	-----	-----	LP....YIFT	6
SPE-C	HTLNIDTQKY	RG.KDYYISS	EMSYEASQKF	KRDLHVDFVFG	LF....YILN	79
SpeG	NSIHINTKQK	RSECILYVDS	IVSLGITDQF	IKGDKVDVFG	LP....YNFS	78
SpeH	TS.HML..KY	.SVK FKNLSV	FFEKDHWISQE	FKDKE VDIYA	LSAQEVCE..	78
SEA	HTILFKGFFT	NHSWYNDLLV	DFDSDKDIVDK	YK GKKVLDYG	AYGYQCAGG	99

β2

β3

α3

β4

SMEZ	GKVIAV.Y.TYC	GMPYQEE..	PMSKNI PVNL	WINRRQIPVF	YNOISTNKTT	127
SMEZ-2	GKVTAY.TYC	GTPYQKT..	SILKNI PVNL	WINGKQISVE	YNEIISTNKTT	127
SPE-J	RYDVYY.TYC	GTTPSVNSN.	SENS KIVGNL	LIDGVQOKTL	INPIKIDKPI	54
SPE-C	SHTGEY.Y.TYC	GTPPAQN.N.	KVNHKLLGNI	FISGESQQNL	NNKIIILEKDI	126
SPE-G	PPYVDN.I.YC	GIVKHSNQG.	NKSLQFVGII	I NQDGKETYLE	SEAVRIKIKKO	126
SPE-H	CPGKR YEAF	GITLTNSEK.	.KEIKVENVV.	WDKSQKQ..P	PMFHITVNKPK	124
SEA	TPNKTACMYC	GVTLHDNNRL	TEKKVVE INI	WLGKONTVE	LETVKTNKKN	149

β5

β6

β7

β8

SMEZ	VIAQEIDLKV	RKFELISQHQL	YSSGSSYKSC	KIVFHTNDNS	DKYSIDDLHYV	177
SMEZ-2	VIAQEIDLKV	RKFELIAQHQL	YSSGSSYKSC	RIVFHTNDNS	DKYSIDDLHYV	177
SPE-J	FIIQEQEDEKI	RQYLIMQTYKII	YDPNSPYIIC	QIEIAINGNK	.HESFNLYDA	103
SPE-C	VTFQEIDLKI	RKYLMDNYKII	YDATSPYVSC	RIEIGTKDGK	.HEQIDDLFDS	175
SPE-G	FTLQEPFLDKI	RKFELMEKYNT	YDSESRYTSC	S1FLATKDKSK	.HYEVDLFNK	175
SPE-H	VIAQEVDIKV	RKLLLIKKYDT	YNNR..EQKY	SKGTV TLDLN	SGKDIVFDLY	172
SEA	VIAQEIELQA	FRYIQEKEYNL	YNSDVFDFGKV	QRGLIVFHTS	TEP SVNYDLF	199

β8 α4

β9

β10

SMEZ	..GYRDKE SI	FKVYKDNKSF	NIDKICHLLI	EIDS	209
SMEZ-2	..GYRDKE SI	FKVYKDNKSF	NIDKICHLLI	EIDS	209
SPE-J	TSS.STRSD II	FKKYKDNKTI	NMKDFSHFDI	YIWTK	137
SPE-C	PNE.GTRSD II	FAKYKDNRII	NMKNFSHFDI	YIEK	208
SPE-G	DDKLLSRD SF	FKRYKDNKIF	NSEEISHFDI	YIKTH	210
SPE-H	YFGNGDFN SM	LIKIVSNNERI	DSTQF.HVIV	SIS	204
SEA	GAQQQNSNTL	LRIYRDNKTI	INSENMRHII	YIYTS	233

α5

β11

β12



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FIG 2

10

30

50

ATGAAAAAAAACAAAACCTTATTTTCTTTACTTCATATTCAATTGCAATAATTCTCGT
M K K T K L I F S F T S I F I A I I S R

70

90

110

CCTGTGTTGGATTAGAAGTAGATAATAATTCCCTCTAAGGAATATCTATAGTACGATT
P V F G L E V D N N S L L R N I Y S T I

130

150

170

GTATATGAATATTCAAGATATAGTAATTGATTTAAACCAGTCATAACTTAGTACAAAG
V Y E Y S D I V I D F K T S H N L V T K

190

210

230

AAACTTGATGTTAGAGATGCTAGAGATTTCTTATTAACCTCCGAAATGGACGAATATGCA
K L D V R D A R D F F I N S E M D E Y A

250

270

290

GCCAATGATTTAAAACGGAGATAAAATAGCTGTGTTCTCCGCCATTGATTGGAAC
A N D F K T G D K I A V F S V P F D W N

310

330

350

TATTTATCAAAGGAAAAGTCACAGCATATAACCTATGGTGGATAAACACCCCTACCAAAA
Y L S K G K V T A Y T Y G G I T P Y Q K

370

390

410

ACTTCATAACCTAAAAAtatccCTGTTAATTATGGattaatGgAAAGcagatCTCTgtt
T S I P K N I P V N L W I N G K Q I S V

430

450

470

CcTtaCaaCGAAATATCaaCTAACAAACaacaGTTACAGCTCAAGAAAtgATCTAAAG
P Y N E I S T N K T T V T A Q E I D L K

490

510

530

GTTAGAAAATTTTAATAGCACACATCAATTATATTCTCTGGTTCTAGCTACAAAAGT
V R K F L I A Q H Q L Y S S G S S Y K S

550

570

590

GGTAGACTGGTTTTCATACAAATGATAATTCAAGATAAAATATTCTTCTGatcTTTctat
G R L V F H T N D N S D K Y S F D L F Y

610

630

650

gtagGATATAGAGATAAAAGAAAGTATCTTTAAAGTATACAAAGACAATAAAATCTTCAAT
V G Y R D K E S I F K V Y K D N K S F N

670

690

ATAGATAAAATTGGGCATTAGATATAGAAATTGACTCCTAA
I D K I G H L D I E I D S



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SPE-G

FIG 3

10 30 50
ATGAAAACAAACATTGACAATTATCATATTATCATGTGTTTAGCTATGGAAGTCAA
M K T N I L T I I I L S C V F S Y G S Q

70 90 110
TTAGCTTATGCAGATGAAAATTAAAGATTAAAAAGATTTAAGATTTGCCTATAAT
L A Y A D E N L K D L K R S L R F A Y N

130 150 170
ATTACCCATGCGATTATGAAAATGTAGAAATTGCATTTGTTACTACAAATAGCATACT
I T P C D Y E N V E I A F V T T N S I H

190 210 230
ATTAATACTAACAAAAAGATCGGAATGTATTCTTATGTTGATTCTATTGTATCTTA
I N T K Q K R S E C I L Y V D S I V S L

250 270 290
GGCATTACTGATCAGTTATAAAAGGGGATAAGGTCATGTTGGTCTCCCTTATAAT
G I T D Q F I K G D K V D V F G L P Y N

310 330 350
TTTCACCTTATGTAGATAATTTATGGTGGTATTGTAACATTCAAGGA
F S P P Y V D N I Y G G I V K H S N Q G

370 390 410
AATAAAATCATTACAGTTGAGGAATTAAATCAAGATGGAAAGAAAATTATGCC
N K S L Q F V G I L N Q D G K E T Y L P

430 450 470
TctgAGGCTGTCGCATAAAAAGAAACAGTTACTTACAGGAATTtgATTTAAAATA
S E A V R I K K K Q F T L Q E F D F K I

490 510 530
AGAAAATTCTAAATGGAAAATACAATATCTATGATTGGAATCGCGTTACATCGGGG
R K F L M E K Y N I Y D S E S R Y T S G

550 570 590
AGCCTTCTTGCTACTAAAGATAGTAAACATTATGAAGTTGATTATAATAAGGAT
S L F L A T K D S K H Y E V D L F N K D

610 630 650
GATAAGCTTTAAGTCGAGACAGTTCTTAAAGGTATAAGATAATAAGATTTTAAT
D K L L S R D S F F K R Y K D N K I F N

670 690
AGTGAAGAAAATTAGTCATTTGATATCTACTTAAACGCACTAG
S E E I S H F D I Y L K T H *



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SPE-H

FIG 4

10

30

50

ATGAGATATAATTGTCGCTACTCACATATTGATAAGAAAACTACAGCATGATTATATGT
M R Y N C R Y S H I D K K I Y S M I I C

70

90

110

TTGTCATTTCTTTATATTCAAATGTTGTTCAAGCAAATTCTTATAATACAACCAATAGA
L S F L L Y S N V V Q A N S Y N T T N R

130

150

170

CATAATCTAGAATCGTTTATAAGCATGATTCTAACCTGATTGAAGCCGATAGTATAAAA
H N L E S L Y K H D S N L I E A D S I K

190

210

230

AATTCTCCAGATATTGTAACAAGCCATATGTTGAAATATAGTGTCAAGGATAAAAATTTG
N S P D I V T S H M L K Y S V K D K N L

250

270

290

TCAGTTTTTTGAGAAAGATTGGATATCACAGGAATTCAAAGATAAAAGAAGTAGATATT
S V F F E K D W I S Q E F K D K E V D I

310

330

350

TATGCTCTATCTGCACAAGAGGTTGTGAATGTCCAGGGAAAAGGTATGAAGCGTTgggt
Y A L S A Q E V C E C P G K R Y E A F G

370

390

410

GGAATTACATTAACTAATTCAAGAAAAAAAAGAAATTAAAGTTCTGTAAACGTgtGggat
G I T L T N S E K K E I K V P V N V W D

430

450

470

AAAAGTAAACACAGCCGCTATGTTATTACAGTCAATAAACCGAAagtaaccGCTCAG
K S K Q Q P P M F I T V N K P K V T A Q

490

510

530

GAAGTGGATATAAAAGTTAGAAAGTTATTGAttaagaatacgATATCTATAATAaccgg
E V D I K V R K L L I K K Y D I Y N N R

550

570

590

gaacaaaaatactctaaagaactgttaccttagATTTAAATTCAAGGTAAAGATATTGTT
E Q K Y S K G T V T L D L N S G K D I V

610

630

650

TTTGATTTGTATTATTTGGCAATGGAGACTTAATAGCATGCTAAAAATATATTCCAAT
F D L Y Y F G N G D F N S M L K I Y S N

670

690

710

AACGAGAGAATAAGactcaactCAATTCATGTAGatgTGTCaatcagctaA
N E R I D S T Q F H V D V S I S *



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SPE-J (partial)

FIG 5

10 30 50
CTTCCGTACATATTA~~T~~ACTCGTTATGATGTTATTATATATGGTGGGTTACACCATCA
L P Y I F T R Y D V Y Y I Y G G V T P S

70 90 110
GTAACACACTAATT~~T~~CGGAAAATA~~G~~TAA~~A~~TTCTAGGTAA~~T~~TTACTAATAGATGGAGTCAG
V N S N S E N S K I V G N L L I D G V Q

130 150 170
CAAAAAACACTAATAAATCCCATAAAAATAGATAAACCTATTTTACGATTCAAGAATT
Q K T L I N P I K I D K P I F T I Q E F

190 210 230
GACTTCAAAATCAGACAATATCTTATGCAAACATA~~C~~AAAATTTATGATCCTAATTCTCCA
D F K I R Q Y L M Q T Y K I Y D P N S P

250 270 290
TACATAAAAAGGGCAATTAGAAATTGCGATCAATGGcAATAAACATGAAAGTTTAACTTA
Y I K G Q L E I A I N G N K H E S F N L

310 330 350
TATGATGCAACCTCATCTAGTACAAGGGAGTGATATTTAAAAAAATATAAAGACaATAAG
Y D A T S S S T R S D I F K K Y K D N K

370 390 410
ACTATAAAATATGAAAGATT~~T~~CAGCCATT~~T~~GATATTACCTTggACTAAATAA
T I N M K D F S H F D I Y L W T K *



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FIG 6

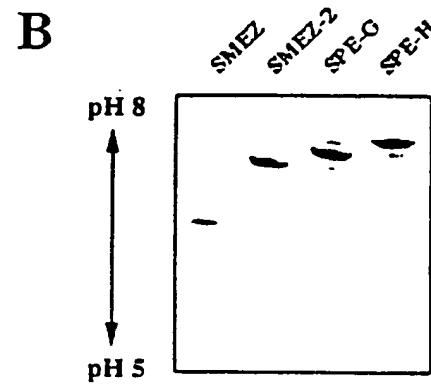
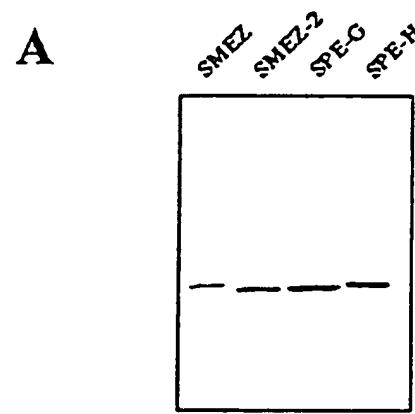




FIG 7

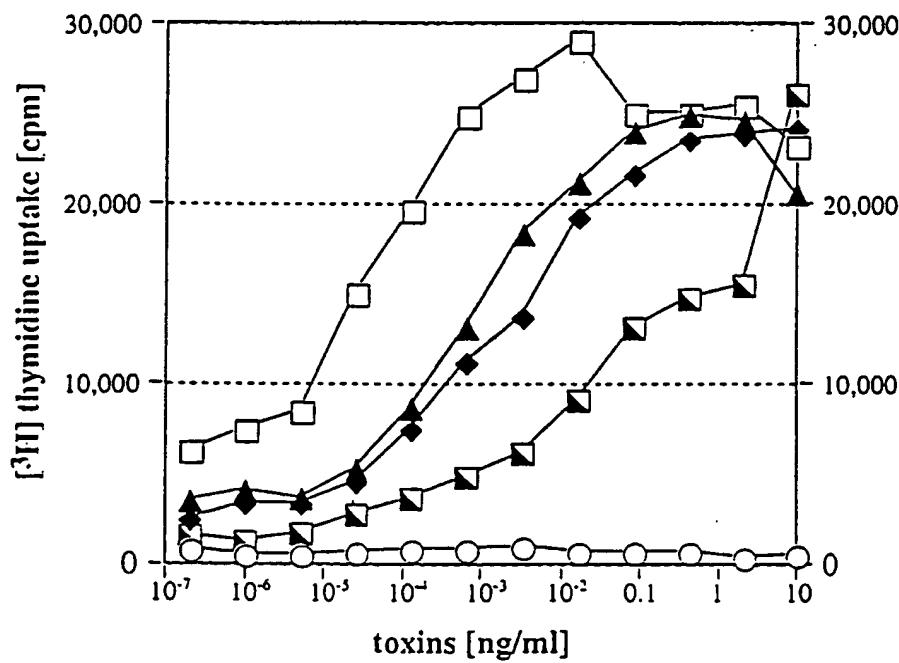
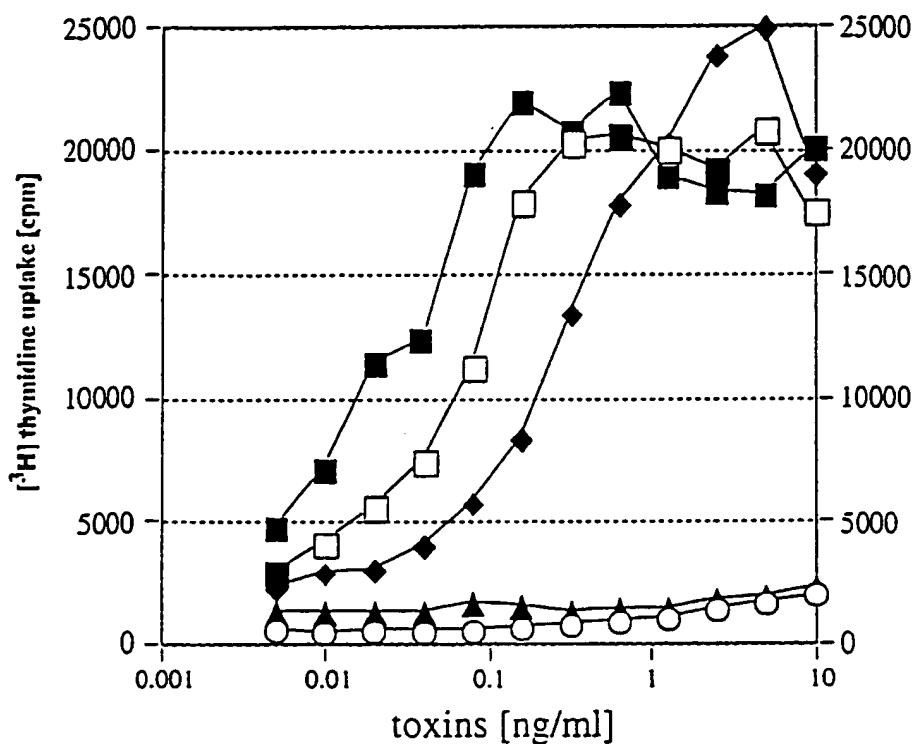




FIG 8



O I P E JCS
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FIG 9

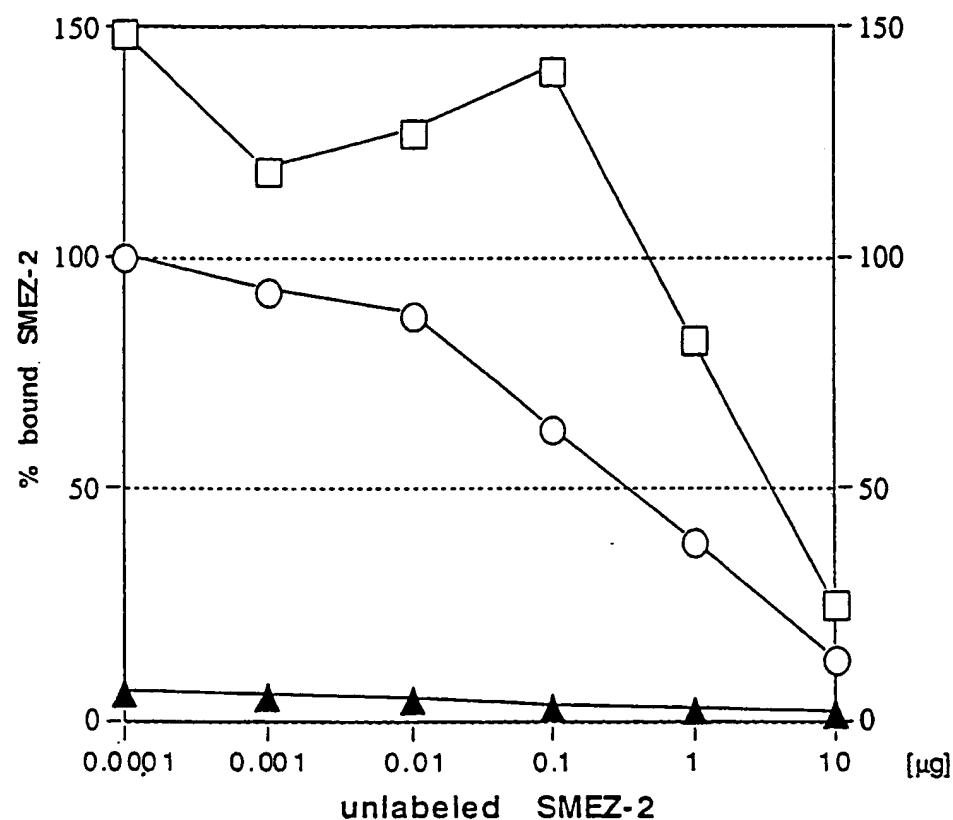




FIG 10

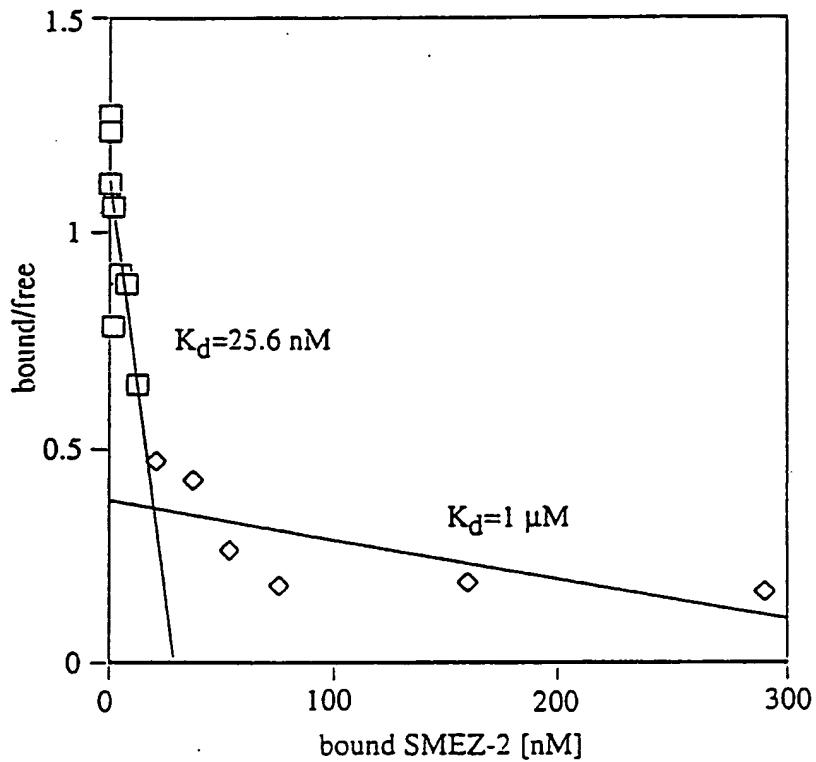




Fig. 11

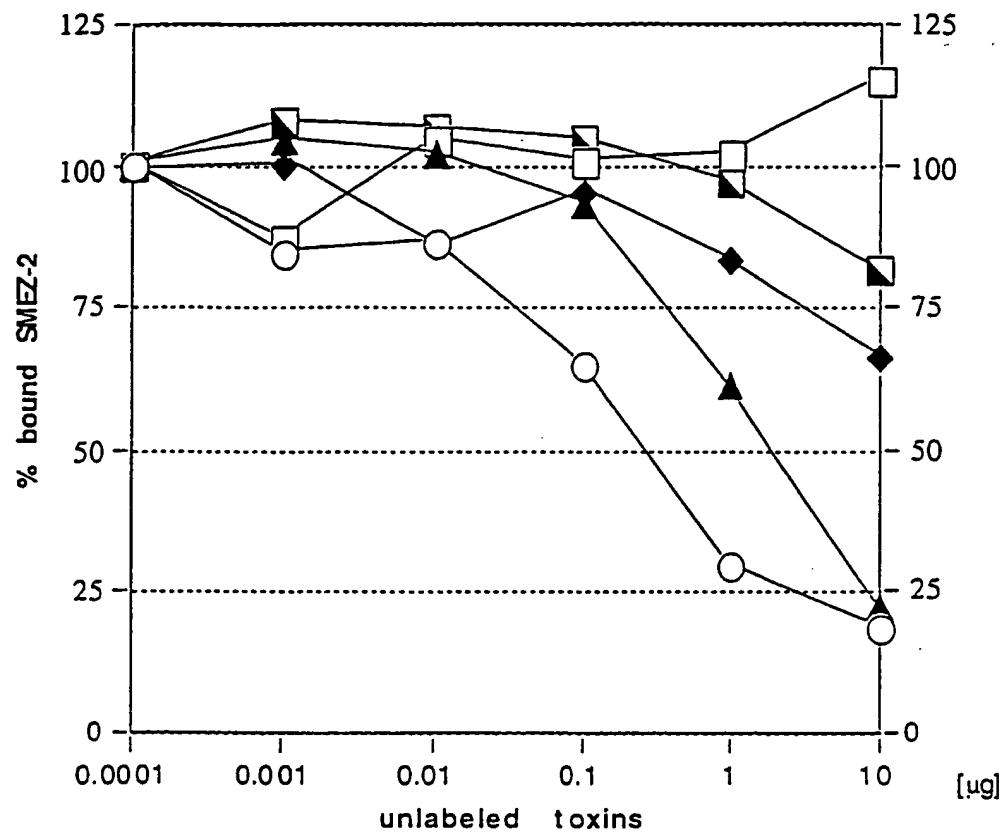
		unlabeled toxins							
		SMEZ	SMEZ-2	SPE-G	SPE-H	SEB	TSST	SEA	SPE-C
tracer toxins	SMEZ	■	■	□	□	□	□	■	■
	SMEZ-2	■	■	□	□	□	□	■	■
	SPE-G	■	■	■	□	□	□	■	■
	SPE-H	■	■	□	■	□	□	■	■
	SEB	□	□	□	□	■ □ ■ □			
	TSST	■	■	□	□	□	■	■	■
	SEA	■	■	□	■	□	■	■	■
	SPE-C	■	□	□	□	□	■	■	■



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FIG 12



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FIG 13

